

# CORNELL

## Fire Control Products

Distributed by



## Reliable Fire Protection



### Rolling Fire Doors

- UL & FM approved for openings up to 32' wide, 25' high
- Suitable for use in industrial, commercial and institutional applications



### Rolling Counter Fire Doors

- UL approved for openings up to 16' wide, 10' high
- UL approved for mounting to rated dry wall, masonry or steel



### Rolling Counter Fire Doors with Frames and Sills

- UL approved for openings up to 10' wide, 4'-9" high
- Slip-in or build into masonry or rated drywall openings
- Manual push-up operation only

## M100 FireGard™ Systems



M100 FireGard Systems utilize a Fire Door Operator to provide unsurpassed automatic fire door closing control while eliminating the hassles of mechanical resetting, even on very large fire doors. M100 Systems are available for use with Rolling Fire Doors and Rolling Counter Fire Doors.

Under normal conditions, M100 Systems function as standard motorized doors with push button activation, but are always capable of closing the door in the event of a fire emergency. Local detectors or a central alarm system can be wired directly to the M100 operator to signal the door to close when in alarm eliminating the need for an external mechanical releasing device. Doors will automatically close by: high temperature

detection at the opening from fusible links or electric thermal sensors; an active alarm signal; or by power failure. Units that utilize back-up battery support can remain open and fire ready during prolonged power outages and can still close the door in the event of an alarm signal or high temperature detection. Due to the automatic closing feature of these systems, a bottom bar sensing edge is required for detection of an obstruction in the opening.

M100 systems never need to be mechanically reset. These systems close fire doors without releasing spring tension or disengaging the motor operator from the unit. M100 Fire Door Operators close doors electrically or mechanically at an average speed of not more than 9" per second. They are fail-safe by design (capable of responding to an alarm signal to close the door, even in the event of a power failure). Once the following alarm conditions are addressed - restoration of power, clearing the alarm signal, replacing the fusible link or resetting the thermal sensors - then simple activation of the "open" control station at floor level resets the door. The unit is once again ready for normal or alarm activation.

These features make M100 systems ideal for larger size fire doors, fire-rated units in recessed applications, units in areas susceptible to frequent power outages or any application where mechanical testing and resetting is impractical or not desired.

### Features

- Available on fire doors up to 32' wide by 25' high
- UL listed and FM approved
- Most existing Cornell conventional fire doors can be retrofitted to M100 system fire doors

### Benefits

- Dependable automatic closing due to simplified design
- Slower, safer, uniform closing speed of approximately six inches per second
- Easy Testing - M100 system fire doors can be tested quickly, safely and easily
- Versatile - M100 Systems can be activated by fusible link or thermal sensors, fire alarm systems or smoke detectors without the need for a mechanical release device.

### M100 System Operators



Model FDCL  
1/2 HP



Model FDC  
1/2, 1 HP



Model FS  
1/3, 1/2, 3/4,  
1 1/2, 2, 5 HP

M100 System operators are always capable of closing the door in the event of a fire emergency and eliminate the need for mechanical resetting.

## SS90-C Fire Control System



the benefit of eliminating mechanical fire door resetting during fire alarm system activation.

The SS90-C System is ideally suited for motor operated fire doors when the motor operator is connected to an AC back-up power supply system. As long as power is present at the operator, the SS90-C system will close the fire door electrically upon

This System requires a motor control logic SS90-C releasing device, a conventional motor operator and a sensing edge. Like the M100, SS 90-C Systems function as normal motorized doors under normal conditions, and have

alarm signal. An advance warning sounder/strobe will alert bystanders that the fire door is about to close. If the sensing edge contacts an obstruction, the door will cycle up to three times prior to a mechanical closing of the fire door. The SS90-C has an internal DC battery that will prevent mechanical door closing in the event of a power failure for up to 72 hours as long as an alarm signal is not detected. If the door is not in the closed position and power is out for more than 72 hours or an alarm signal is detected when there is not power present at the operator, then the system will activate mechanical fire door closing. In this situation, or at least once a year for annual testing, the mechanical closing system will require resetting by an authorized door technician.

Use the SS90-C System with Rolling Fire Doors and Rolling Counter Fire Doors.

### Features

- Control package is completely contained within the release device eliminating the need to mount an additional control panel
- Advance warning Sounder/Strobe provided
- Available with standard gearhead and belt drive operators
- For UL listed and FM approved fire doors
- Fail-safe design

### Benefits

- Easy Testing - provides automatic closing while eliminating mechanical resetting due to alarm testing

### SS90-C Release Device



- With power present, the SS90-C system will close the fire door electrically upon alarm signal.
- Ideally suited for motor operated systems connected to an AC back up power supply.

# ACCESSORIES

## Release Device Options

A release device is an electro-mechanical device that enables a rolling fire door to close in response to a signal from an alarm system, fire detector or power failure. The release device can close the door long before local temperatures are high enough to melt fuselinks. This is required when controlling smoke and other products of combustion. Release devices can be used on manually and electrically operated fire doors. They support one end of the fuselink chain assembly and their release has the same result as melting one of the fuselinks.

### SS90-B



This World Power Series device is designed to accept variable input voltages such as 120 volt or 24 volt AC or 24 volt DC. This adaptability simplifies planning and enhances

serviceability. The device is activated by smoke or heat detectors or by a building alarm system. It is fail-safe by design causing an open door to close in the event of a prolonged power failure (generally, longer than 10 seconds). The device is UL listed with adjustable time delays for short power outages or alarm signal. This device offers Down Limit Detection, which prevents mechanical release of a fully closed fire door. A remote "down" limit switch is required to utilize this feature. An optional sounder/strobe can be tied into the device to give advanced warning that the fire door is about to close (see annunciators).

### SS90-B2

The B2 features a 72-hour battery back-up system that powers the release device and up to four local smoke detectors and warning devices during a power outage. This device includes all the features of the type B units except it is a single voltage input device and must be ordered for the specific input power source. An optional sounder/strobe or voice warning module can be tied into the device to give advanced warning that the fire door is about to close (see annunciators).



### Down Limit Detection

The SS90-B, B2 and C series release devices are equipped with a Down Limit Detection feature. When utilized, this feature prevents mechanical spring tension

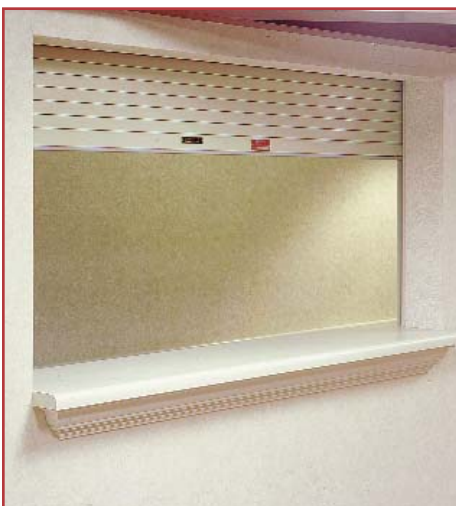
release whenever the fire door is in the fully closed position eliminating the need for mechanical resetting by a trained fire door technician. This feature prevents spring tension release of a fully charged spring which can cause damage to fire door components.

To take advantage of the down limit detection feature, a signal to the release device from an auxiliary limit switch is required. On manually operated units a proximity switch is required. A proximity switch is a two piece magnetic dry contact switch that gets wired to the release device. The wired piece gets mounted to the floor or countertop and the magnet piece gets mounted on the door bottom bar. On motor operated units, the closed door signal to the release device can be accomplished using an additional "down" limit switch in the motor operator.



Proximity Switch

## UL Labeled Countertops: Laminate, Stainless Steel



**Laminate.** UL 1 1/2 hour rated, 1 5/8" thick plastic laminate covered countertops custom designed and furnished in a single piece to fit openings up to 10' wide. Two-piece countertops with center joint furnished for openings up to 16' wide. Standard plastic laminate colors may be selected from Formica®, Wilsonart®, Nevamar®, or Pionite®. Laminate countertops are available in all shapes shown.



Offset H Sill

UL Labeled Plastic Laminate Only



Rectangular Sill



Standard H Sill



T Sill

**Stainless Steel.** UL 1 1/2 hour rated, 14 gauge stainless steel, #4 finish, with a refractory fiber core. Custom designed to a maximum wall opening width of 11' 2" for face of wall units, and 11' 10" for between jambs. Maximum length is 11' 10" wide. Stainless steel countertops are T shaped for face of wall units, rectangular for between jambs units.

# ACCESSORIES

## Fuselinks & Thermal Sensors



Fuselink



Thermal Sensor

### Provide Basic Fire Detection For All Units.

All Cornell fire products are provided with either a multiple fuselink or electric thermal sensor set-up to close the door automatically when any fuselink separates or thermal sensor is activated. Electric thermal sensor switches are used as a signaling device for fire door motor operators. Fuselinks or thermal sensors can be used as stand-alone signaling devices or as back up signaling devices for fire door products. Standard fuselinks or thermal sensors are designed to melt or activate at 165° F. They are to be located at the ceiling level above the fire door. Through wall configurations provide protection on both sides of the firewall opening. Reference NFPA 80 for mounting arrangements. Painting over fuselinks, chain or thermal sensors is not permitted.

## Annunciators

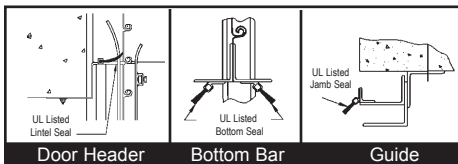


### Advanced Warning Completes Fire Protection Systems.

**Sounder/Stroke.** An ADA compliant warning device used with SS90 series release devices to give advanced warning that a fire door is about to close. Annunciators are active upon alarm signal throughout release device time delay and during automatic door closing. A 120 volt AC model is used with the type B device, but will not function in the event of a power failure. A 12 volt DC model is used with type B2 & C devices and is powered by the release device battery to give advanced warning, even during a power failure.

**Voice Warning Module (VWMI-E).** Is an optional warning device for use with type B2 & C release devices. The voice warning module is not ADA compliant. The warning is in English, other languages are available.

## Perimeter Seals



### Control Air Flow Around Fire Doors.

Cornell offers UL listed perimeter seals to add protection against the passage of smoke and drafts for Rolling Fire Doors that do not fall within the limits of out tested SmokeShield® door. An electric sensing edge is an alternate bottom seal for motorized fire doors. The UL listing assures that the application of the seals will not affect the fire rating of the doors. The UL listing does not indicate any tested degree of smoke protection.

## Vision Windows



### Enable Evaluation Of Adjacent Area.

As an optional accessory for Rolling Fire Doors, vision windows enhance life safety and convenience by allowing visibility to the other side of the firewall opening. Up to six non-wired glass panes are available per fire door curtain. Each pane is 10" x 1-5/8", spaced a minimum 5" apart and 12" in from each guide. Placement, quantity and layout to be set by specifier. Available for use on UL rated Fire Doors with up to a 4 hour rating and on FM rated doors with up to a 1-1/2 hour rating.

## Smoke & Heat Detectors



### Provide Early Detection Capability.

The operation of all Cornell fire doors can be coordinated with alarm systems or fire detectors. Detectors are best provided by the alarm system contractor or the customer so that they meet the alarm system requirements and are uniform throughout the building. For individual local detectors, Cornell offers photoelectric or ionization smoke / heat detectors in 120 VAC or 24 VDC. Photoelectric detectors activate by visible smoke obstructing a light beam while ionization detectors activate by detecting invisible products of combustion in the air.

# PROTECTION SYSTEMS

## FireGard™ EZ Test 'n Set

The EZ Test 'n Set combines the ease of testing / resetting and controlled automatic closing with manual chain operation on fire doors.

EZ Test 'n Set is a combination chain operator / controlled closing system that eliminates the need for complex spring release mechanisms and complicated reset procedures. The door is held open by a unique locking mechanism that is tied into a factory supplied padlockable guide mounted test handle and fuselink arrangement. Using the test handle or melting of the fusible link releases the locking mechanism, disengages the hand chain operator and engages the adjustable governing mechanism, all part of a compact operating and closing system. The door will close at a controlled rate of descent not to exceed 9" per second. To reset for normal



*Mechanism cover included, but not shown in photo for clarity.*

chain operation, simply re-engage the test handle or replace the fusible link. EZ Test 'n Set can be tied into a fire alarm system or local detectors with the use of a release device. If activated by alarm signal, simply reset by reinserting the draw bar at the release device. The door is ready for normal use or emergency automatic closing.

This system is economically ideal for fire doors that do not require the convenience of a motor operator. Resetting is quick and easily performed by facility personnel. Access to the hand chain is required if guides are recessed in a wall.

EZ Test 'n Set is available for use with Rolling Fire Doors up to 168 sq. ft. for daily use or up to 256 sq. ft. on openings for fire protection only, maximum width is 24 ft., maximum height is 16 ft.

### Features

- UL listed and FM approved
- Adjustable governor
- Padlockable floor level test handle (padlock provided)
- Can be retrofit to existing Cornell fire doors

### Benefits

- Spring tension is not released for automatic fire door closing
- Fire door resets take only minutes to perform by facility personnel
- Drop testing is easy with the floor level test handle
- Downtime is minimal
- No additional headroom is required for coil above ceiling applications

### Options

- Release Devices - see accessories section
- Annunciators - see accessories

## SmokeShield®



SmokeShield adds tested smoke and draft control protection to Rolling Counter Fire Door assemblies.

In addition to being UL rated for fire protection and the loss of property, SmokeShield units are also UL labeled for smoke and draft control to protect against

the loss of life. SmokeShield units were tested per UL 1784 and meet the Uniform Building Code, 1997 Section 7.210 for Smoke-and-Draft Control Door Assemblies and NFPA 105 (National Fire Protection Agency) air leakage criteria which reads: "This recommended practice is intended to assist in the treatment of the problems associated with controlling the flow of smoke and gases through door openings in buildings." The proven reliability of the system is revealed in the test results: SmokeShield exceeded the passing test requirement by over 70%.

SmokeShield UL labeled Rolling Counter Fire Doors are available with a maximum width of 12', maximum height of 10'. SmokeShield units can come to rest on a countertop or run full opening height and stop at the floor.

### Features

- Specifically tested per UL 1784 for proven smoke and draft control
- UL labeled for both smoke and draft control and fire protection
- Available as push-up, hand crank or motor operated
- UL listed and tested perimeter seals included with all units

### Benefits

- Code compliant on openings requiring smoke and draft control

### Options

- Compatible for use with M100 Systems
- UL labeled countertops
- Release Devices - see accessories section
- Annunciators - see accessories

# MATERIALS & FINISHES

## Aesthetics and Protection

Finish options allow Cornell products to fit and often contribute to the visual aesthetics of a building project. When enhanced resistance to chemicals, corrosion, moisture, rust or abrasion is needed, Cornell has finishes that will meet or exceed the requirement.

### Baked-On Enamel

Applied to steel curtain slats and hood material, baked-on polyester enamel provides a fine long-term finish or a superior base for applying coatings. Gray is standard on curtains and hoods, tan is an available option for fire door slats.

### Stainless Steel, 300 Series, #4 Finish

Brushed satin finish is available on curtain slats, bottom bar, hood and guides. Stainless steel resists rust and corrosion and offers superior performance in the presence of moisture, chemicals and food products.

### ZRG

Zinc Rich Gray powder coating is formulated for enhanced protection against weather and corrosion. It is an optional coating finish that can be applied to steel components.

### Hot Dip Galvanizing

A hot liquid application process that provides a protective zinc coating for corrosion resistance in a metallic silver finish.

### Standard Finishes

#### Curtain Slats

Baked-on light gray enamel

#### Hood

Baked-on light gray enamel

#### Endplate Brackets

SpectraShield powder coated 30-7192 gray

#### Bottom Bar & Guides

SpectraShield powder coated 30-7192 gray

## SpectraShield® Powder Coat Finish



Cornell's SpectraShield Powder Coat Finish adds durability and aesthetic value to our products in a choice of over 200 colors. The environmentally friendly process applies a baked on organic polymer over a conversion coating. Electrostatic application

assures uniform, total coverage and a smooth finish. Powder coating is applied to a minimum 2-1/2 mils cured film thickness with pencil hardness rated at H or better per ASTM-D-3363. SpectraShield outperforms field applied liquid paints in color retention,



UV stability, and corrosion, chemical and abrasion resistance.

For quality results, our in-house powder coat line is custom configured for running our products. Outsourcing shipping cost and time is eliminated and project lead time is controlled. Proper surface preparation for field applied finishes is difficult and costly. The SpectraShield surface preparation and coating process produces a smooth, long lasting finish at controlled costs.

# CORNELL

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